



P  W E R TM

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CDB / PDB / PSB Series

Programming

August 2018

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LED Driver Programming Basics : 101

- Install Programming Software GUI
 - USB Drivers
 - DirectX
- Available for download from www.erp-power.com/our-products
- Microsoft Windows Application
 - Apple MAC OSX requires Windows VM
 - Could Use Free VMware, etc...
- Programming Cable (PROG-JACK-USB):
 - Plug USB Side into Your Laptop/PC USB Port
 - Plug Audio Jack Side into programmable LED driver



Programming Main Menu, No Cable or Driver Connected

Red “LED” Indicates
No Connections



ERP Driver Configuration Tool - Version DR5_17_41_01

ERP POWER™

LED DRIVER DETAILS

Model Number:

Operating Current: 0 mA

Voltage Range: Single

Open Circuit Voltage: NaN Vdc

Bar Code:

Factory:

Date Code:

Firmware Revision:

LED DRIVER RUNTIME AND STATISTICS

Hours of Operation: (H : M)

AC Power Cycles: 0

Temperature Events: 0

Line Transient Events: 0

OPERATIONS

Modify Driver Program

Add Connected Driver Config to Database

Import Config File to Database

Export Config Database

Select File

Upgrade Unit Firmware

Driver not connected
Port - COM1

LED DRIVER PARAMETERS USED FOR LOT CONFIGURATION

Configuration Tool Mode: Non Engineering (Trim Only)

Operating Current:

Operating Voltage:

Range:

LOT CONFIGURATION PROCESS

Lot ID	Lot Quantity	Drivers Configured In Lot
	0	0 of 0

LOT CONFIGURATION PROGRESS NOTIFICATION UPDATE...

Start Lot Configuration

Abort Lot Configuration

Programming Main Menu, Cable and Driver Connected

Green “LED”
Indicates Connection



ERP Driver Configuration Tool - Version DR5_17_41_01

ERP POWER™

LED DRIVER DETAILS

Model Number: *PDB260W-1700-210-N*
Operating Current: *1240 mA*
Voltage Range: *High (160 to 210 V)*
Open Circuit Voltage: *250 Vdc*
Bar Code: *PDEW1700103517AS0052*
Factory: *ERP, Zhuhai*
Date Code: *3517*
Firmware Revision: *DR1NTC_A0_17_40_04*

LED DRIVER RUNTIME AND STATISTICS

Hours of Operation: *0 : 20 (H : M)*
AC Power Cycles: *33*
Temperature Events: *0*
Line Transient Events: *3*

OPERATIONS

Modify Driver Program

Add Connected Driver Config to Database

Import Config File to Database

Export Config Database

Select File

Upgrade Unit Firmware

LED DRIVER PARAMETERS USED FOR LOT CONFIGURATION

Configuration Tool Mode: *Non Engineering (Trim Only)*

Operating Current:
Operating Voltage:
Range:

LOT CONFIGURATION PROCESS

Lot ID	Lot Quantity	Drivers Configured In Lot
	<i>0</i>	<i>0 of 0</i>

LOT CONFIGURATION PROGRESS NOTIFICATION UPDATE...

nan

Start Lot Configuration **Abort Lot Configuration**

Driver Connected
Port - COM7

Programming Main Menu, Hooked Up to a PDB Series Driver

Programmed
Parameters

Interrogated
Runtime
Statistics

Operations

ERP Driver Configuration Tool - Version DR5_17_41_01

ERP
POWER™

LED DRIVER DETAILS
Model Number: *PDB260W-1700-210-N*
Operating Current: *1240 mA*
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Firmware Revision: *DR1NTC_A0_17_40_04*

LED DRIVER PARAMETERS USED FOR LOT CONFIGURATION
Configuration Tool Mode: *Non Engineering (Trim Only)*
Operating Current:
Operating Voltage:
Range:

LED DRIVER RUNTIME AND STATISTICS
Hours of Operation: *0 : 20 (H : M)*
AC Power Cycles: *33*
Temperature Events: *0*
Line Transient Events: *3*

OPERATIONS
Modify Driver Program
Add Connected Driver Config to Database
Import Config File to Database
Export Config Database
Select File
Upgrade Unit Firmware

Driver Connected
Port - COM7

LOT CONFIGURATION PROCESS
Lot ID Lot Quantity Drivers Configured In Lot
 0 0 of 0

LOT CONFIGURATION PROGRESS NOTIFICATION UPDATE...

Start Lot Configuration Abort Lot Configuration

The ERP driver does not need to be hooked to any external power for programming or checking status.

Production
Programming



Programming Main Menu, Hooked Up to a PSB Series Driver

Programmed
Parameters

Interrogated
Runtime
Statistics

Operations

ERP Driver Configuration Tool - Version DR5_17_41_01

ERP POWER

LED DRIVER DETAILS

Model Number: **PSB50W-1200-42**
Operating Current: **1000 mA**
Operating Voltage (typ): **42 Vdc**
Open Circuit Voltage: **48 Vdc**
Bar Code: **PSB050W4254017A00003**
Factory: **ERP, Zhuhai**
Date Code: **4017**
Firmware Revision: **PSB_F_X05_17_41_06**

LED DRIVER PARAMETERS USED FOR LOT CONFIGURATION

Configuration Tool Mode: **Non Engineering (Trim Only)**
Operating Current:
Operating Voltage:

LED DRIVER RUNTIME AND STATISTICS

Hours of Operation: **32 : 40 (H : M)**
AC Power Cycles: **223**
Temperature Events: **0**
Line Transient Events: **0**

OPERATIONS

Modify Driver Program
Add Connected Driver Config to Database
Import Config File to Database
Export Config Database
Select File
Upgrade Unit Firmware

Driver Connected
Port - COM6

LOT CONFIGURATION PROCESS

Lot ID	Lot Quantity	Drivers Configured In Lot
	0	0 of 0

LOT CONFIGURATION PROGRESS NOTIFICATION UPDATE...

nan

Start Lot Configuration Abort Lot Configuration

The ERP driver does not need to be hooked to any external power for programming or checking status.

Production
Programming

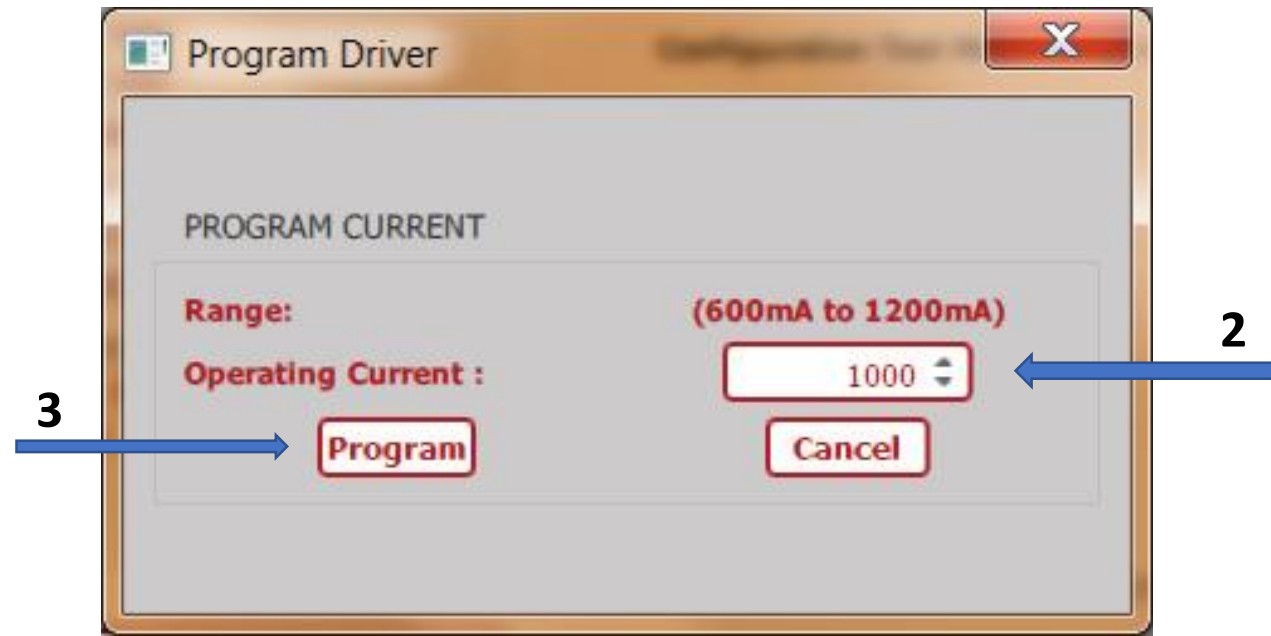
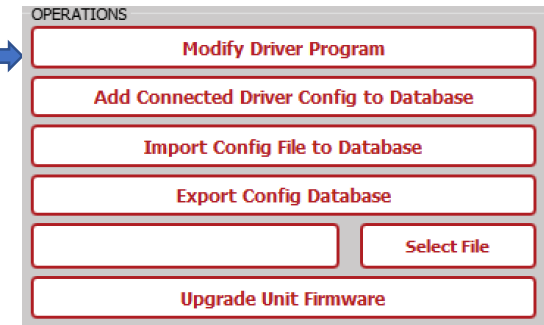


LED Driver Details & LED Driver Runtime and Statistics

- **Model Number:** The ERP model number (or customer SKU) programmed into the unit
- **Operating Current:** The maximum current output (for CC units, this value is configurable)
- **Operating Voltage:** The operating voltage (for CV units, this value is configurable)
- **Open Circuit Voltage:** The maximum voltage output if the driver is not connected to a load
- **Bar Code:** The serial number of the unit
- **Factory:** The factory where the unit was manufactured
- **Date Code:** The date of manufacture (WWYY - week# and year#)
- **Firmware Revision:** The version of firmware inside the driver
- **Hours of Operation:** Total time the supply has been powered (HH:MM), 10-minute intervals
- **AC Power Cycles:** Total number of times the supply has been powered up
- **Temperature Events:** Number of times the supply temperature has exceeded a threshold
 - Temperature thresholds vary by product (~100°C typ.)
- **Line Transient Events:** Cumulative number of line transients seen during operation

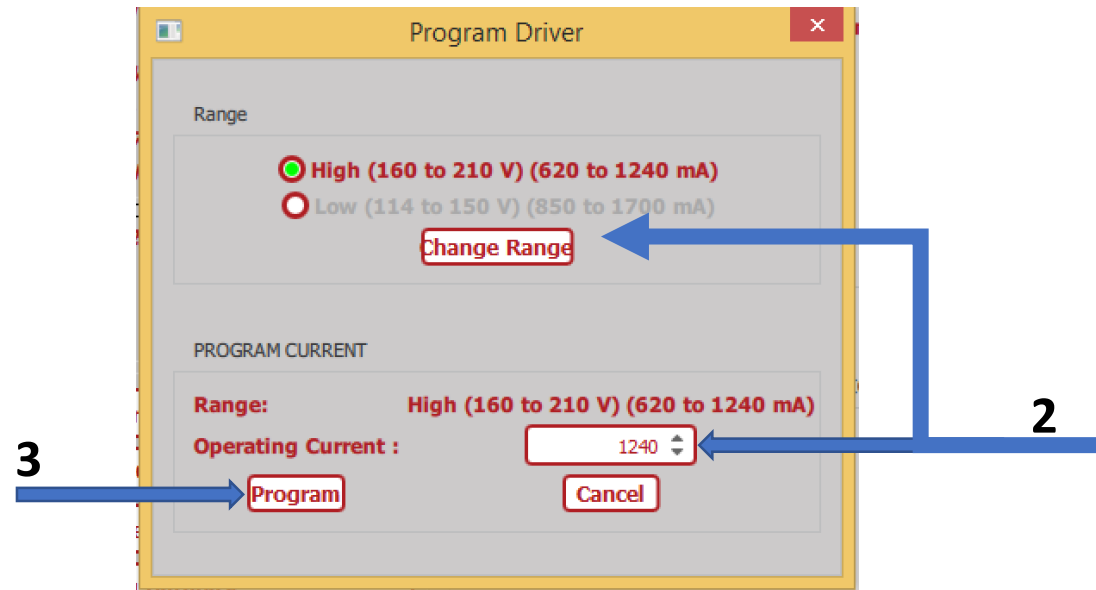
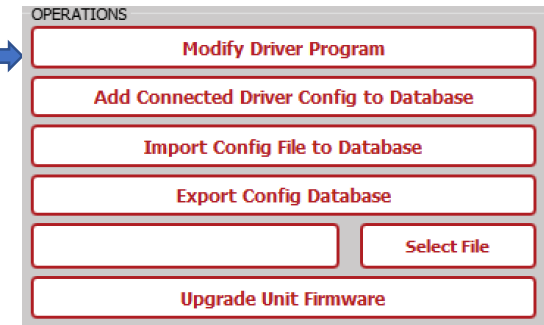
Programming a Driver, 3 Steps, PSB Series

- Press the button labeled “**Modify Driver Program**” ➔ 1
- Adjust the Desired Current (PSB Series) or Current and Voltage (PDB Series)
- Pressing the “**Program**” button will write the new Operating Current/Voltage to the driver’s memory. Driver status will be updated.



Programming a Driver, 3 Steps, PDB Series

- Press the button labeled “**Modify Driver Program**” 1 →
- Adjust the Desired Current (PSB Series) or Current and Voltage (PDB Series)
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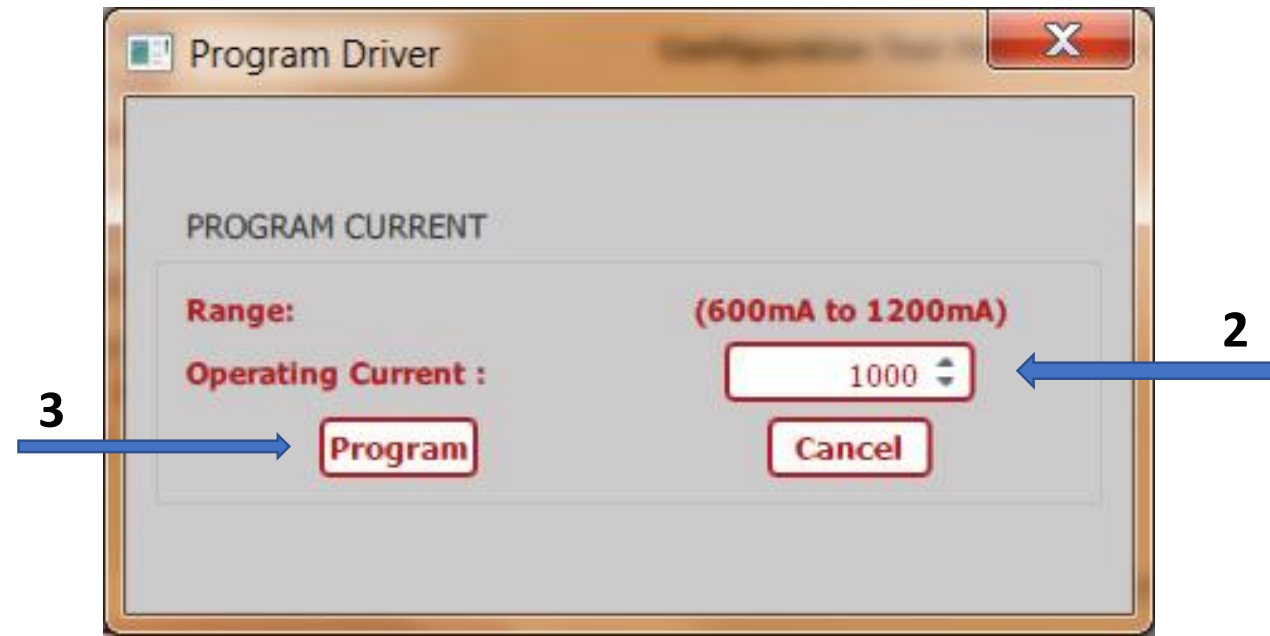
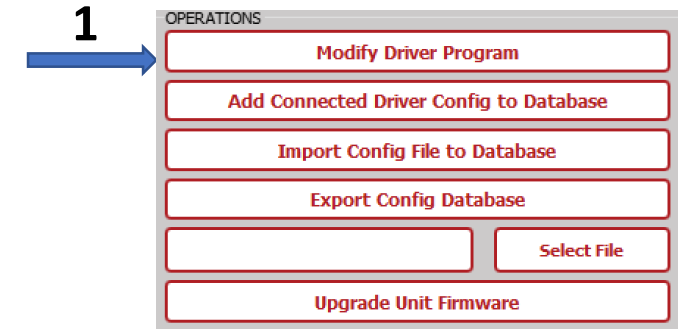
Exercise #2: Programming PSB Series Hands On Exercise:

- **System Requirement**

- Driving two head track light
- Each head driven at 1000ma at Worst Case Vf of 20V

- **What PSB Series parts would you use?**

- Part Number, programmed drive current and Voltage?



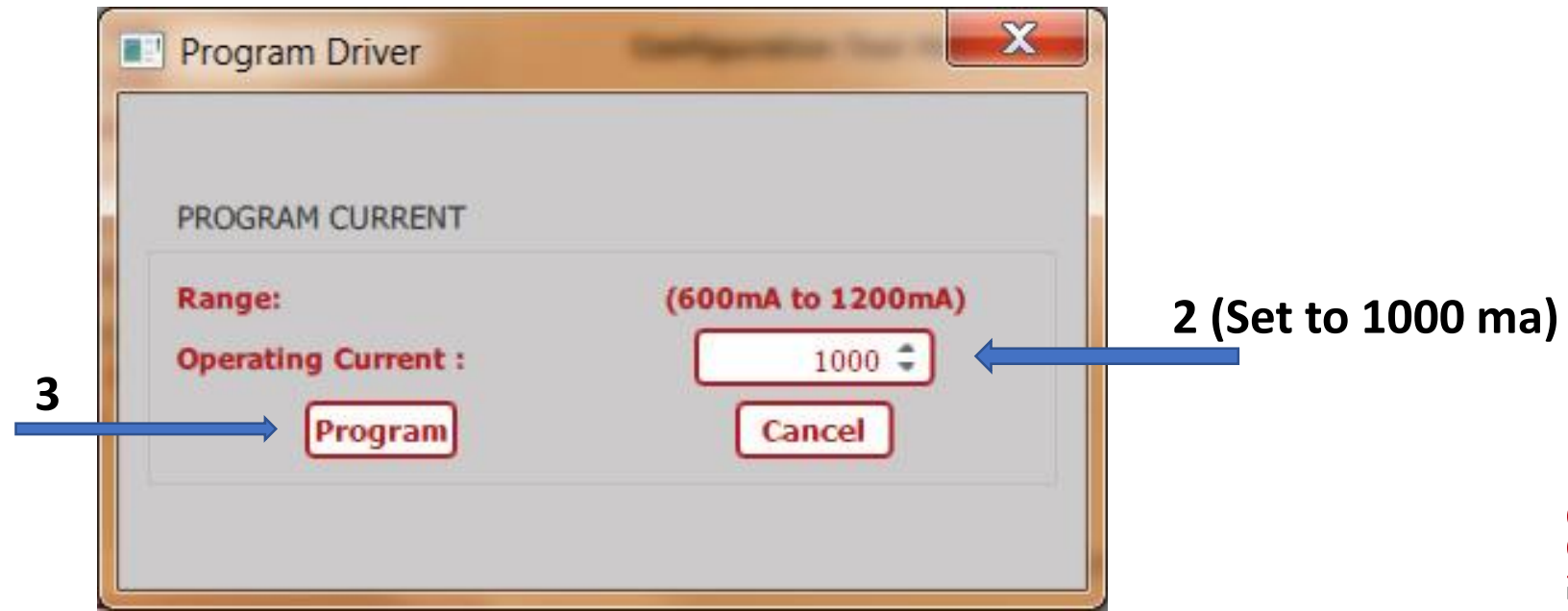
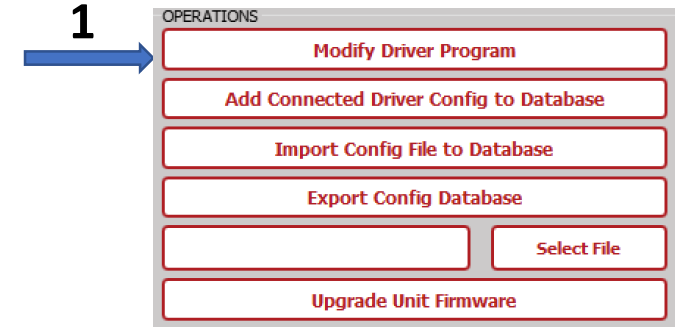
Exercise #2: Solution

- **System Requirement**

- Driving two head track light
- Each head driven at 1000ma at Worst Case Vf of 20V

- **What PSB Series product would you use?**

- Part Number, programmed drive current and Voltage
- **PSB50W-1200-42, 1000ma, 42V**
- **Note: Voltage is not Programmable in PSB Series, 42V covers 40V application**



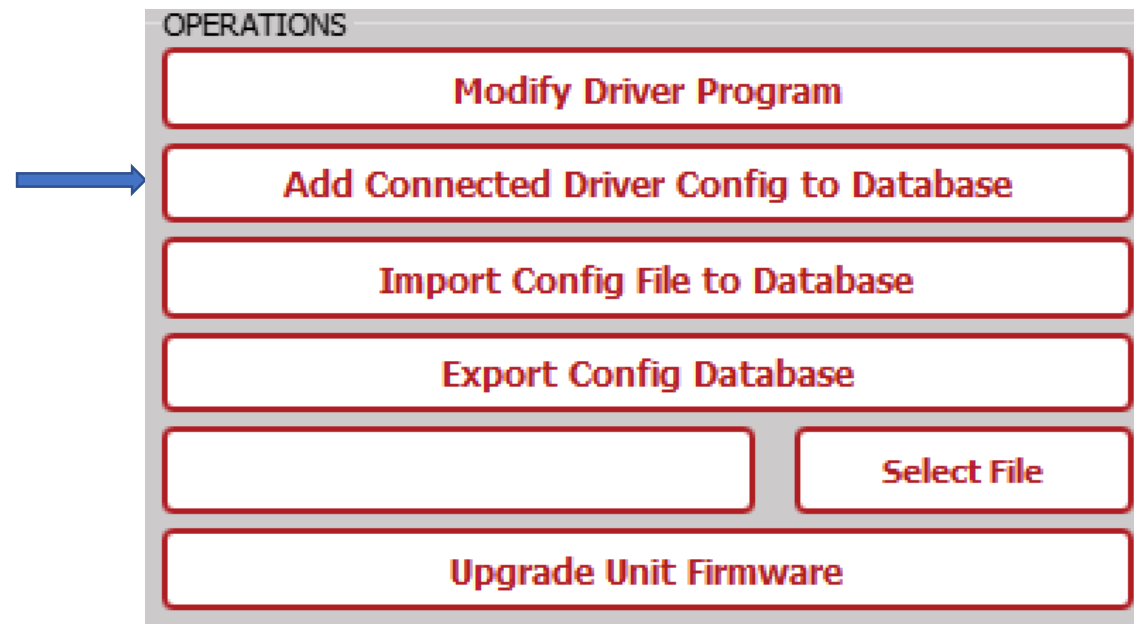
Advanced Programming Topics: 102

- Configuring/Programming A Driver
- Database
- Configuration File
- Lot Configuration or Production Programming



Use of Configuration Files

- Each time a Driver is programmed, the configuration can be added to the current database by pressing the button labeled **“Add Connected Driver Config to Database”**

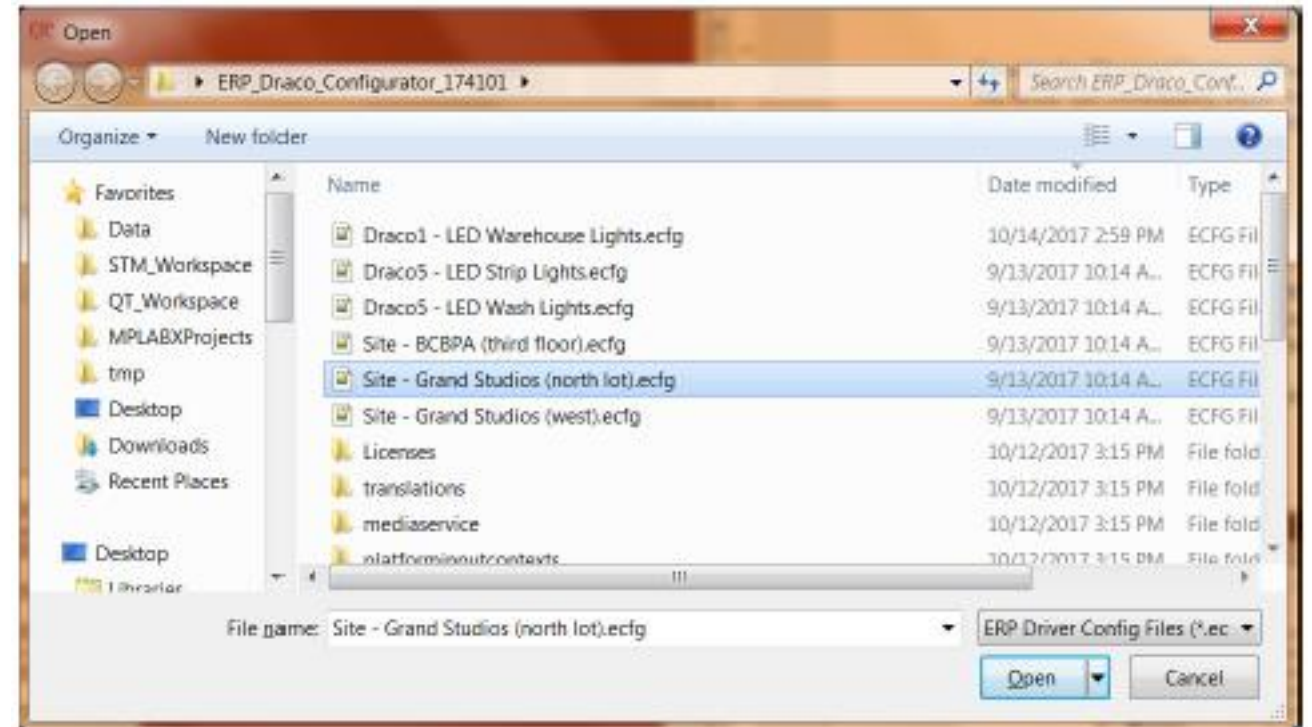
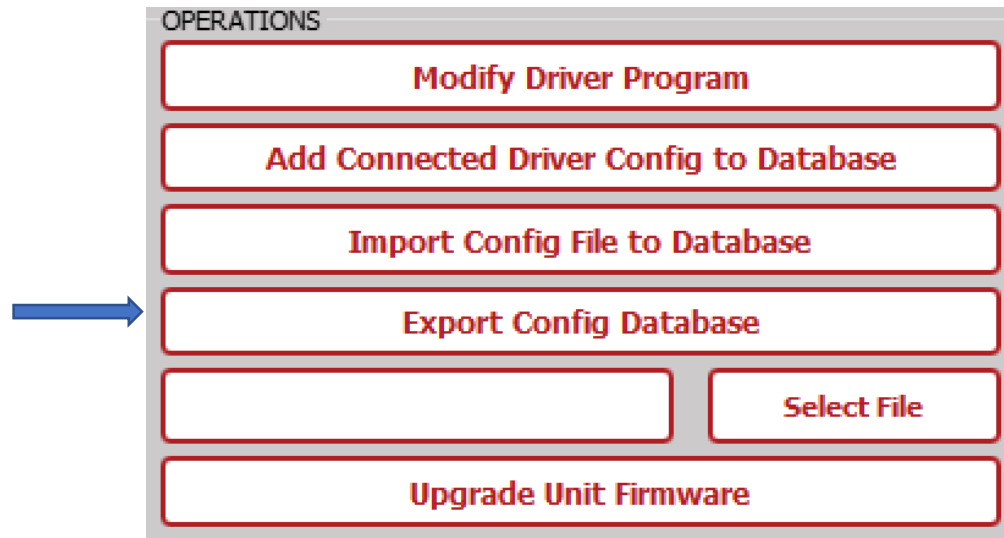


Understanding Database & Configuration File

- Configuration represents a set of Current and Voltage programming parameters
- Each database stored to hard disk can hold hundreds of configurations
- Database is stored in computer temporary memory
 - Cache/DRAM and is Volatile
- Saved File (Configuration file) is stored in a computer permanent memory
 - Hard disk, memory stick and is not Volatile
- These databases can be grouped by product name, site installation, by username or however you would like.

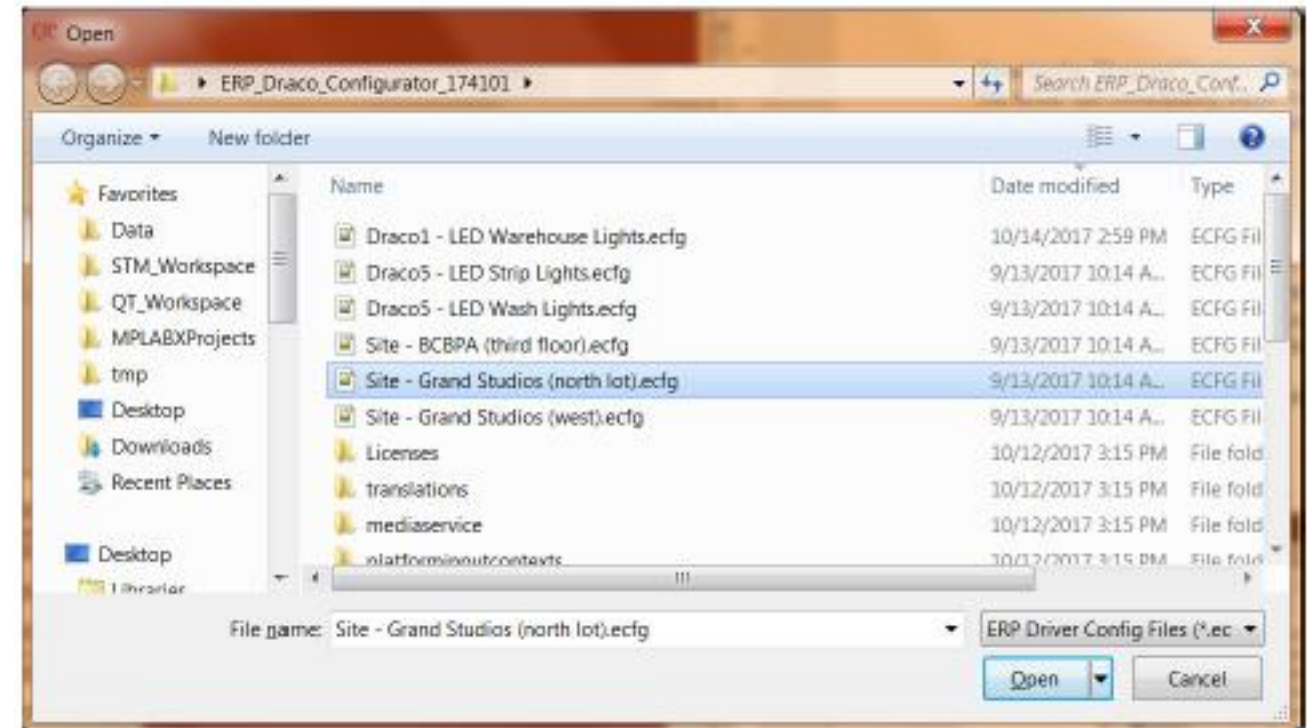
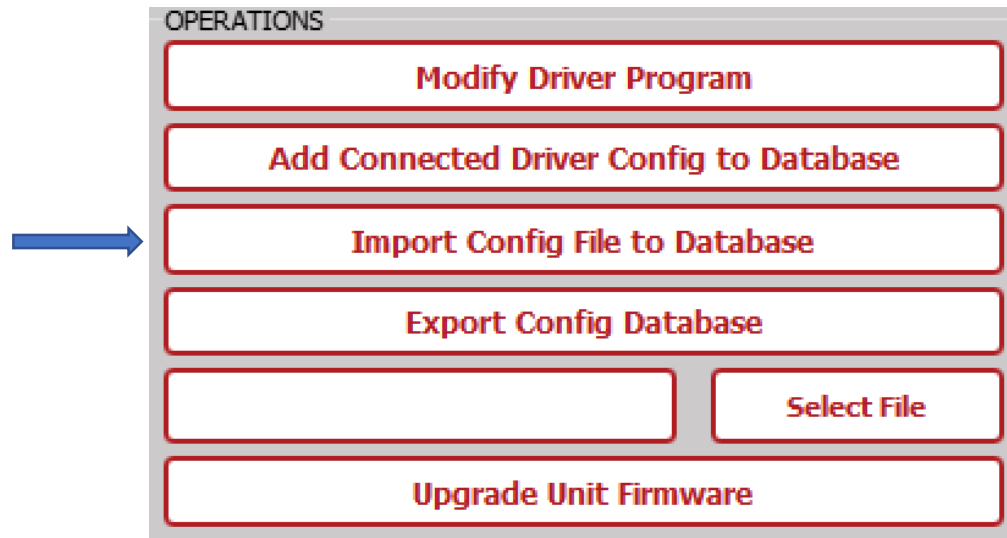
Exporting Database to Configuration File

- The database can be stored to hard disk by pressing the button **“Export Config Database”** and selecting the filename.



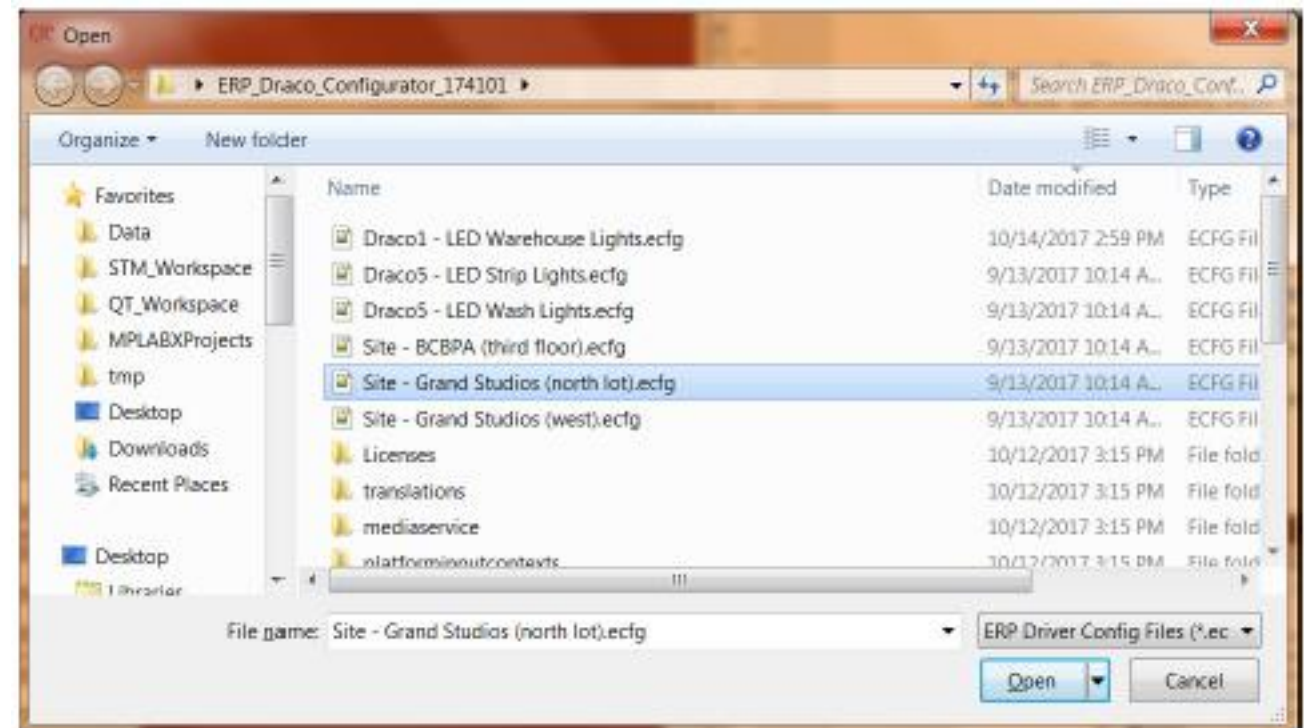
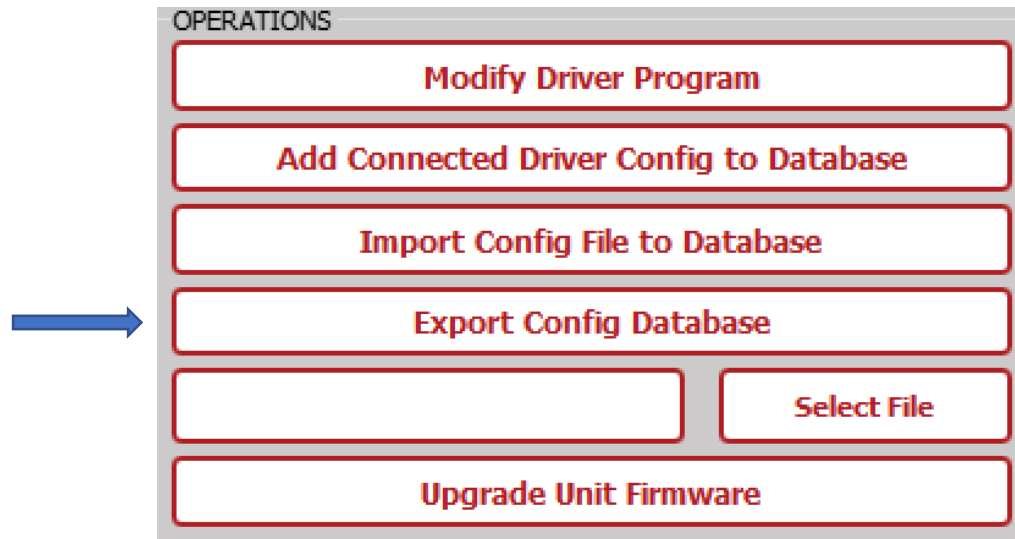
Importing/Loading Configuration File to Database

- By pressing “**Import Config File to Database**” button, you select which database is loaded into memory.



Updating a Configuration File

- By pressing “**Export Config Database**”, you can save the current, plus any new added configurations from memory to disk under the current database name, or a new name.

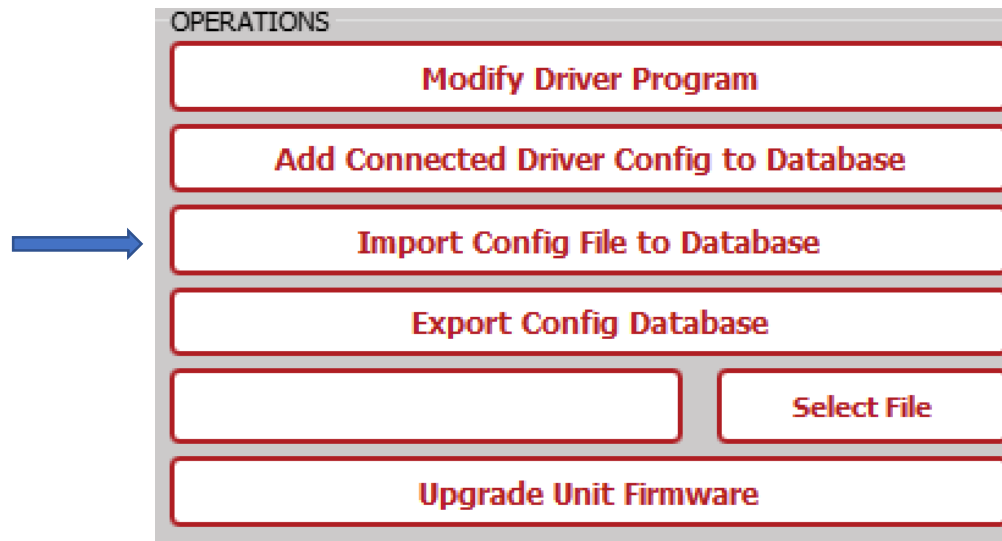


Programming Multiple Drivers

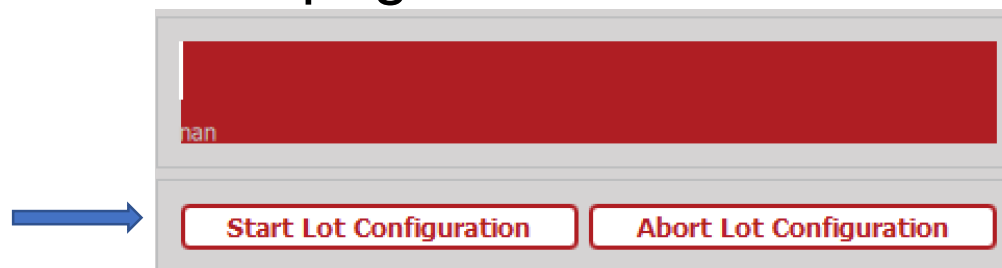
- Programming multiple drivers with the same configuration is called **“Lot Configuration”**
 - A “Lot” is a “Group”
- Typically done during production
- Need to have the configuration database, typically stored in hard disk in a configuration file.
 - Perform **“Import Config File to Database”**
- Previously the below operations should have been performed to save the Config File
 - **“Add Connected Driver Config to Database”**
 - **“Export Config Database”**
- The current configuration from the Database in the memory could be used for Lot Configuration, however it is highly recommended to have the Database saved in a configuration file in a hard disk then Import it and use it for Lot Configuration.

Programming Multiple Drivers Continued

- Import your config file database from disk into memory by pressing **“Import Config File to Database”** button.



- Press the button in lower right **“Start Lot Configuration”**, this will bring up the dialog box shown in the next page



Programming Multiple Drivers Continued

- Select the specific driver model number to filter only those units on the screen (ex. PSB50W-12) **1**
- Enter in the Lot ID/Name to identify this programming sequence (ex. WashLgt_202) **2**
- Enter in the Lot Quantity, how many drivers need to be programmed (i.e. 12) **3**
- Select the configuration you'd like stored on each unit (i.e. 1050 mA) **4**
- Press **"Start Config"** **5**

The screenshot shows the 'Configuration Selection' dialog box. It has a 'MODEL NUMBER' dropdown menu at the top right, a table of 'AVAILABLE CONFIGURATIONS' in the center, and 'LOT INFORMATION' fields at the bottom. Blue arrows with numbers 1 through 5 point to specific elements: 1 points to the 'Model Number' dropdown, 2 points to the 'Lot ID/Name' field, 3 points to the 'Lot Quantity' field, 4 points to the row for '1050' mA in the configurations table, and 5 points to the 'Start Config' button.

Operating Current (mA)	Driver Range Level	Output Voltage Range (Vdc)	Open Ckt Voltage (Vdc)	Engineering Params by	Operating Voltage (Vdc)	Offset Current (mA)
1200	Low	32 to 42	48	Factory	42	0
1050	Low	32 to 42	48	Factory	42	0

LOT INFORMATION

Lot ID/Name: WashLgt_202 Lot Quantity: 12

Buttons: Start Config, To Satellite, Export Satellite, Cancel

Programming Multiple Drivers Continued

- You are then taken back to the main window, where the bottom right red-bar will count off each programmed driver.
- You simply plug the PROG-JACK-USB cable into a driver, and it's configured within 1-2 seconds
- You can then plug in the next driver, and the next.
- Configuring a lot of 50 drivers could take less than 2 minutes!
- You may stop the Lot Configuration process by pressing “**Abort Lot Configuration**” button.

LED DRIVER PARAMETERS USED FOR LOT CONFIGURATION

Configuration Tool Mode: **Non Engineering (Trim Only)**

Operating Current: **1240 mA**

Operating Voltage: **210 Vdc**

Range: **High (160 to 210 V) (620 to 1240 mA)**

LOT CONFIGURATION PROCESS

Lot ID	Lot Quantity	Drivers Configured In Lot
Bright Fixture	3	3 of 3

LOT CONFIGURATION PROCESS NOTIFICATION UPDATE...

Programming of Lot - Bright Fixture of Quantity 3 is complete!!
Please see file - Bright Fixture-Mon Nov 6 18:13:44 2017.csv
in your Data Folder(C:/Users/user/ERPConfiguratorData)

0 1 2 3

Start Lot Configuration **Abort Lot Configuration**